SEQUENCE LISTING

	<1		Chen Tamu Hori Dzau	ra, uchi	Koic , Ma	hi sats	ugu									
	<1	<120> CNRE Binding Factors and Uses Thereof														
	<130> B0801/7197/ERG/KA															
		<140> US 09/673994 <141> 2000-10-24														
	<150> US 60/082,997 <151> 1998-04-24															
	<150> PCT/US99/08502 <151> 1999-04-23															
	<160> 23															
	<170> FastSEQ for Windows Version 3.0															
	<2 <2 <2 <2 <2	212> 213> 220> 221>	1706 DNA Mus	musc		-										
atoo		100> cag a		rtcto	rc co	ıqqaa	acqo	gac	agtt	ttg	gtag	gaggg	gac a	agtgt	cttgg	60
			geto			gag a	atg t	cc t		gg d	tg g	gag g	gcc t	ca a	atg	111
			tct Ser				gca									159
Gln	Asp	Ala	gga Gly	Asp 30	Gln	Gly	Gly	Asn	Thr 35	Cys	Ile	Leu	Arg	Glu 40	Glu	207
gcc Ala	agg Arg	atg Met	ccc Pro 45	cag Gln	tca Ser	act Thr	Gly ggg	gtt Val 50	gct Ala	tta Leu	gl ^y aaa	ata Ile	999 55	ttg Leu	gag Glu	255
tca Ser	gca Ala	gag Glu 60	cct Pro	aca Thr	gcc Ala	ctg Leu	ctc Leu 65	ccc Pro	agg Arg	gca Ala	gag Glu	acc Thr 70	ctc Leu	cca Pro	gag Glu	303
			ctt Leu													351

atg ctg ggg aac gag ctg tgc agt gtc tgt ggg gac aaa gcc tct ggc Met Leu Gly Asn Glu Leu Cys Ser Val Cys Gly Asp Lys Ala Ser Gly



					ctg Leu											447
Arg	Ser	Val	Ile 125	Lys	gga Gly	Ala	Arg	Tyr 130	Val	Cys	His	Ser	Gly 135	Gly	His	495
Cys	Pro	Met 140	Asp	Thr	tac Tyr	Met	Arg 145	Arg	Lys	Cys	Gln	Glu 150	Cys	Arg	Leu	543
					gca Ala											591
Glu 170	Gln	Ile	Arg	Leu	aag Lys 175	Lys	Leu	Lys	Arg	Gln 180	Glu	Glu	Glu	Gln	Ala 185	639
					tcc Ser											687
					gag Glu											735
					aac Asn											783
					gca Ala											831
cag Gln 250	cgc Arg	ttt Phe	gcc Ala	cac His	ttt Phe 255	act Thr	gag Glu	ctg Leu	gcc Ala	atc Ile 260	gtg Val	tcc Ser	gtg Val	cag Gln	gag Glu 265	879
att					aaa Lys					Phe						927
gag Glu	gac Asp	cag Gln	atc Ile 285	gcc Ala	ttg Leu	ctg Leu	aag Lys	acc Thr 290	Ser	gca Ala	att Ile	gag Glu	gtc Val 295	Met	ctt Leu	975
ctg Leu	gag Glu	acg Thr 300	Ser	cgg Arg	agg Arg	tac Tyr	aac Asn 305	Pro	ggc	agt Ser	gag Glu	ago Ser 310	Ile	acc Thr	ttc Phe	1023
ctc Leu	aag Lys 315	gac Asp	ttc Phe	agt Ser	tac Tyr	aac Asn 320	Arg	gaa Glu	gac Asp	ttt Phe	gcc Ala 325	Lys	gca Ala	gly	ctg Leu	1071
cag Gln 330	Val	gag Glu	ttc Phe	atc Ile	aac Asn 335	Pro	ato	ttt Phe	gag Glu	ttc Phe 340	Ser	aga Arg	gcc Ala	atg Met	aat Asn 345	1119
gag Glu	ctg Leu	caa Gln	ctc Leu	aat Asn 350	Asp	gct Ala	gag Glu	ttt Phe	gct Ala 355	Leu	cto Leu	att Ile	gcc Ala	atc Ile 360	agc Ser	1167
atc Ile	ttc Phe	tct Ser	gca Ala 365	Asp	cgg Arg	Pro	aac Asn	gtg Val	. Gln	gac Asp	cag Gln	cto Lev	caa Gln 375	. Val	gag Glu	1215
agg Arg	ctg Leu	caa Gln 380	cac His	aca	tat Tyr	gtg Val	gag Glu 385	ı Ala	ctg Leu	cac His	gcc Ala	tac Tyr 390	gtc Val	tcc	atc Ile	1263
aac Asn	cac His	ccc	cac	gac	cca Pro	ctg Lev	atg	, ttc	c cca Pro	cgg Arg	ato Met	, cta	atg	aag Lys	ctg Leu	1311



	395					400					405					
											gag Glu					1359
ctt								Pro			ctg Leu					140.7
	gtc Val			tgac	tgtt	tc g	ccgt	gtcc	t tt	gtgt	tggc	cac	atgg	cga		1459
			ctgc												gggag	1519
															ttttc	1579
															gaccc laaaaa	1639 1699
aaaa		au c	iccag	locas	19 43	uguu	Juuuu									1706
	_		_													
		10>														
		12>														
	<2	13>	Mus	musc	culus	3										
	< 4	00>	2													
Met				Leu	Glu	Ala	Ser	Met	Pro	Asp	Val	Ser	Pro	qaA	Ser	
1			_	5		m1	~ 1	D	10	7	71.	a 1	7 an	15	C1.	
Ala	Thr	GIU	Leu 20	Trp	гÀг	Thr	GIU	25	GTII	Asp	Ala	GIY	30	GIII	GIY	
_		35	Cys				40				Met	45				
_	50					55					Glu 60					
	Pro	Arg	Ala	Glu	Thr 70	Leu	Pro	Glu	Pro	Thr 75	Glu	Leu	Arg	Pro	GIn 80	
65 Lys	Arg	Lys	Lys	Gly 85		Ala	Pro	Lys	Met 90		Gly	Asn	Glu	Leu 95		
			100					105			Tyr		110			
Cys	Glu	Gly 115	Cys	Lys	Gly	Phe	Phe 120	Arg	Arg	Ser	Val	Ile 125	Lys	Gly	Ala	
Arg	Tyr 130		Cys	His		Gly 135	Gly	His	Cys	Pro	Met 140	Asp	Thr	Tyr	Met	
Arg 145	Arg	Lys	Cys	Gln	Glu 150	Cys	Arg	Leu	Arg	Lys 155	Cys	Arg	Gln	Ala	Gly 160	
Met	Arg	Glu	Glu	Cys 165	Val	Leu	Ser	Glu	Glu 170		Ile	Arg	Leu	Lys 175	Lys	
Leu	Lys	Arg	Gln 180		Glu	Glu	Gln	Ala 185			Thr	Ser	Val 190	Ser	Pro	
Arg	Val	Ser 195	Ser	Pro	Pro	Gln	Val 200	Leu	Pro	Gln	Leu	Ser 205	Pro	Glu	Gln	
Leu	Gly 210		Ile	Glu	Lys	Leu 215	Val	Ala	Ala	Gln	Gln 220	Gln	Cys	Asn	Arg	
Arg		Phe	Ser	Asp	Arg		Arg	Val	Thr	Pro	Trp	Pro	Ile	Ala	Pro	
225			_	_	230		_	~-7	~7	235		70 T -	TT2 -	Dk -	240 Thr	
Asp	Pro	Gln	Ser	Arg 245		Ala	Arg	Gln	Gln 250		Phe	ата	HlS	255		
Glu	Leu	Ala	Ile 260	Val		Val	Gln	Glu 265			Asp	Phe	Ala 270			

Leu Pro Gly Phe Leu Gln Leu Ser Arg Glu Asp Gln Ile Ala Leu Leu 280 275 Lys Thr Ser Ala Ile Glu Val Met Leu Leu Glu Thr Ser Arg Arg Tyr 295 300 Asn Pro Gly Ser Glu Ser Ile Thr Phe Leu Lys Asp Phe Ser Tyr Asn 310 315 Arg Glu Asp Phe Ala Lys Ala Gly Leu Gln Val Glu Phe Ile Asn Pro 330 Ile Phe Glu Phe Ser Arg Ala Met Asn Glu Leu Gln Leu Asn Asp Ala 345 340 Glu Phe Ala Leu Leu Ile Ala Ile Ser Ile Phe Ser Ala Asp Arg Pro 360 Asn Val Gln Asp Gln Leu Gln Val Glu Arg Leu Gln His Thr Tyr Val 380 375 Glu Ala Leu His Ala Tyr Val Ser Ile Asn His Pro His Asp Pro Leu 390 395 Met Phe Pro Arg Met Leu Met Lys Leu Val Ser Leu Arg Thr Leu Ser 410 405 Ser Val His Ser Glu Gln Val Phe Ala Leu Arg Leu Gln Asp Lys 425 Leu Pro Pro Leu Leu Ser Glu Ile Trp Asp Val His Glu 440 435

<210> 3

<211> 1335

<212> DNA

<213> Mus musculus

<400> 3

atgtccttgt ggctggaggc ctcaatgcct gatgtttctc ctgattctgc aacggagttg 60 tggaagacag aacctcaaga tgcaggagac cagggaggca acacttgcat cctcagggag 120 gaagccagga tgccccagtc aactggggtt gctttaggga tagggttgga gtcagcagag 180 cctacagccc tgctccccag ggcagagacc ctcccagagc cgacagagct tcgtccacaa 240 aagcggaaaa agggcccagc ccccaaaatg ctggggaacg agctgtgcag tgtctgtggg 300 gacaaagcct ctggcttcca ttacaacgtg ctgagctgcg agggctgcaa gggattcttc 360 420 cgccgcagtg tcatcaaggg agcacgctat gtctgccaca gcggtggcca ctgccccatg gacacctaca tgcggcggaa atgccaggag tgtcgacttc gcaaatgccg ccaggcaggc 480 atgagggagg agtgtgtgct gtcagaagaa cagatccgct tgaagaaact gaagcggcaa 540 gaagaggaac aggeteaage caetteggtg teeceaaggg tgteeteace teeteaagte 600 ctgccacagc tcagcccaga gcagctgggc atgatcgaga agctggtggc tgcccagcaa 660 cagtgtaaca ggcgctcctt ttcagaccgc ctgcgcgtca cgccttggcc cattgcaccc 720 gacceteaga geegggaage eegacaacag egetttgeee aetttaetga getggeeate 780 gtgtccgtgc aggagattgt tgactttgcc aaacagctcc ctggcttcct acagctcagc 840 agggaggacc agatcgcctt gctgaagacc tctgcaattg aggtcatgct tctggagacg 900 tcacggaggt acaaccccgg cagtgagagc atcaccttcc tcaaggactt cagttacaac 960 cgggaagact ttgccaaagc agggctgcag gtggagttca tcaaccccat ctttgagttc 1020 tccagagcca tgaatgagct gcaactcaat gatgctgagt ttgctctgct cattgccatc 1080 agcatcttct ctgcagaccg gcccaacgtg caggaccagc tccaagtaga gaggctgcaa 1140 cacacatatg tggaggccct gcacgcctac gtctccatca accaccccca cgacccactg 1200 atgttcccac ggatgctaat gaagctggtg agcctccgta ctttgagcag cgtccattca 1260 gagcaagtgt ttgcccttcg cctgcaggac aaaaagcttc cccctctgct gtctgagatc 1320 1335 tgggatgtcc acgag

<210> 4

<211> 488

<212> DNA



<213> Mus musculus

60 atggaactag accggtctgc cgggaaacgc gacagttttg gtagagggac agtgtcttgg 120 taatgtccag ggctccagga agagatgtcc ttgtggctgg aggctcaatg cctgatgttt 180 ctcctgattc tgcaacggag ttgtggaaga cagaacctca agatgcagga gaccagggag 240 gcaacacttg catcctcagg gaggaagcca ggatgcccca gtcaactggg gttgctttag 300 ggatagggtt ggagtcagca gagcctacag ccctgctccc cagggcagag accctcccag agccgacaga gcttcgtcca caaaagcgga aaaagggccc agcccccaaa atgctgggga 360 420 acgagetgtg cagtgtetgt ggggacaaag cetetggetg tecattacaa egtgetgage 480 tgcgagggct gcaagggatt cttccgccgc agtgtcatca agggagcacg ctatgtctgc 488 cacagcgg <210> 5 <211> 1723 <212> DNA <213> Rattus norvegicus <400> 5 60 taatgtccag ggctccagga agagatgtcc ttgtggctgg aggccgcagt gcctgatgtt tctcctgact ctgcaacgga gttgtggaag acagaacctc aagatgcagg agaccaggga 120 180

ggcaacactt gcatccttag ggaggaagcc aggatgcccc aatcaactgg gggtgcttta 240 aggatagggt tggagtcatc cgagcctaca gccctgctcc ccagggcaga gaccctccca gagcctacag aacttcgtcc acagaagcgg aaaaaggggc cagccccaa aatgctgggg 300 360 aacqaqctat gcagtgtatg tggggacaag gcctctgcgt tccattacaa tgtgctgagc tgcgagggct gcaagggatt cttccgccgc agtgtcatca agggagcacg ctacatttgc 420 480 catagoggtg gccactgccc catggacacc tacatgoggc ggaaatgcca ggagtgtcgc cttcgcaaat gccgccacgc aggcatgagg gaggagtgtg tcttatcaga agaacagatc 540 600 cgcttgaaga aactgaagcg tcaagaagag gagcaggctc aagccacatc ggtgtcccca agggtttcct caccgcccca ggtcctgcca cagctcagcc cagaacaact gggcatgatt 660 gagaagttgg tggctgccca gcaacagtgt aacaggcgct ccttctctga ccgacttcga 720 780 gtcacgcctt ggcccattgc acccgaccct cagagccggg aagcccgcca acagcgcttt 840 gcccacttta ctgagctggc catcgtgtcc gtgcaggaga ttgttgactt tgccaaacag ctccctggct tcctacagct gagcagggag gaccagatcg ccttgctgaa gacctctgcg 900 960 atcgaggtga tgcttctgga gacatcgcgg aggtacaacc ctgggagtga gagcatcacc 1020 ttcctcaagg atttcagtta caaccgggaa gactttgcca aagcagggct gcaggtggag 1080 ttcattaacc ccatctttga gttctccaga tccatgaatg aactgcaact caatgatgct gaatttgctc tgctcatagc catcagcatc ttctctgcag accggcccaa cgtgcaggac 1140 1200 cagctccaag tagagagact gcaacacaca tatgtggagg ccctgcatgc ctatgtctcc 1260 atcaaccacc cccacgaccg actgatgttc ccacggatgc taatgaagct ggtgagcctc cggactttga gcagcgtcca ttcagagcaa gtgtttgcac ttcgcctgca ggacaaaaaa 1320 cttccccctc tgctctccga gatctgggat gtccacgaat gactgtttct ccgtgtcctc 1380 tgtgttggcc acgcagctga agcttactga ctgcttccta gaggtggagc agactgagga 1440 1500 gggcaaacat tcctgggcgc tgggtgaaag agacccttgc atggcactaa agagagtcaa agggttgggt gttttgtggc tgctgggcag ttggggacct actaacgttg tatgccatct 1560 gaaggccttg ttgacccaac caaataaact agccaggaga gccactttgt gcagggttct 1620 1680 tcaggccctg cccaaaaaaa aaaaaaaaaa acgactaacg ttgtatgcca tctgaaggcc 1723 ttgttgaccc aaccaaataa actagccagg agagccactt tgt

<210> 6

<211> 1528

<212> DNA

<213> Homo sapiens

<400> 6

cagtgccttg gtaatgacca gggctccaga aagagatgtc cttgtggctg ggggcccctg

tgcctgacat tcctcctgac tctgcggtgg agctgtggaa gccaggcgca caggatgcaa 120 gcagccaggc ccagggaggc agcagctgca tcctcagaga ggaagccagg atgccccact 180 ctgctggggg tactgcaggg gtggggctgg aggctgcaga gcccacagcc ctgctcacca 240 300 gggcagagcc cccttcagaa cccacagaga tccgtccaca aaagcggaaa aaggggccag cccccaaaat gctggggaac gagctatgca gcgtgtgtgg ggacaaggcc tcgggcttcc 360 actacaatgt tetgagetge gagggetgea agggattett eegeegeage gteateaagg 420 480 gagegeacta catetgeeac agtggeggee aetgeeecat ggaeacetae atgegtegea 540 agtgccagga gtgtcggctt cgcaaatgcc gtcaggctgg catgcgggag gagtgtgtcc 600 tgtcagaaga acagatccgc ctgaagaaac tgaagcggca agaggaggaa caggctcatg ccacatectt geceecagg egtteeteac ecceecaaat eetgeeceag eteageeegg 660 aacaactggg catgatcgag aagctcgtcg ctgcccagca acagtgtaac cggcgctcct 720 780 tttctgaccg gcttcgagtc acgccttggc ccatggcacc agatccccat agccgggagg 840 cccgtcagca gcgctttgcc cacttcactg agctggccat cgtctctgtg caggagatag 900 ttgactttgc taaacagcta cccggcttcc tgcagctcag ccgggaggac cagattgccc 960 tgctgaagac ctctgcgatc gaggtgatgc ttctggagac atctcggagg tacaaccctg 1020 ggagtgagag tatcaccttc ctcaaggatt tcagttataa ccgggaagac.tttgccaaag 1080 cagggctgca agtggaattc atcaacccca tcttcgagtt ctccagggcc atgaatgagc tgcaactcaa tgatgccgag tttgccttgc tcattgctat cagcatcttc tctgcagacc 1140 1200 ggcccaacgt gcaggaccag ctccaggtgg agaggctgca gcacacatat gtggaagccc 1260 tgcatgccta cgtctccatc caccatcccc atgaccgact gatgttccca cggatgctaa 1320 tgaaactggt gagcctccgg accctgagca gcgtccactc agagcaagtg tttgcactgc 1380 gtctgcagga caaaaagctc ccaccgctgc tctctgagat ctgggatgtg cacgaatgac 1440 tgttctgtcc ccatattttc tgttttcttg gccggatggc tgaggcctgg tggctgcctc 1500 ctagaagtgg aacagactga gaagggcaaa cattcctggg agctgggcaa ggagatcctc 1528 ccgtggcatt aaaagagagt caaagggt

<210> 7

<211> 3847

<212> DNA

<213> Mus musculus

<400> 7

60 ggaggttgta gactttattc aatcaaagat cagtcaacgt gatgaaaacg gggagcttcg gttattgtca tccattgtgg aagaggtgag tctaaagttg ggagggaggn gnttggtnta 120 aaacaganaa tttttttga gatgtgagca gaggttggga gttagattca ctgaanacaa 180 ttagtgactt tgattaaaan ggnggttntt tcttcatttc ccagatgtag cctgggcttc 240 300 agaaattnac ngtttttttt tttgtgataa cttgcccatt ctttgtgtcc tgctttcttg tattagcaag gacaagcttt cttgtggtac tttggttcaa accccatggc taaactgcct 360 420 taaccttttt gtagetgetg gateagtgee tggegeeaga caettetggg gatggtaeag 480 ggtgtgacaa catgacgtgc atcatcattt gtttcaagcc ccgaaacaca gtagagcttc 540 aggcagagag tggcaagagg aaactggagg aggcactgtc cacggagggg gctgaagaca ccggcaacag tgacaaaaag aaggccaaga gggattagtg gtcaaccgga ccctgcccat 600 660 gtggactgtt ttctgagccc ttggacccga gactgagttt tgtccttgtc ctttagcctt 720 agcagtgggt atgaggtgtg cagggggctg ggtggctttc ctcagcccat tacaaagagg 780 geoceccace ecceecacge ggeageetgg gaggetetge tgteetetta ageoteetta 840 ctctccttgg gctcatcgac tatcggttct gtgcctgtgc tctgttgtgt tggagggaag 900 gactggtagt tetgattttt actetgtgaa caetttattt aaggacatte ttttttattg geggetetgt gacccetage egettgeace egetetetgt tgtacaettt caagcaacae 960 1020 tttttcagac taaaggccaa acaaaagcta atcgtgctca tagtgtcatg ctttactctc 1080 ctaccetgge cecatatgtg gtgggegget gttgetgcat gettgtgtgt gteeegagee 1140 tctggagagg gggcagtgaa tgtggagcag gagctgggag tcttaactcc tgagtaagca geoegetgga ggecateetg egetgttege etteaggeae gaetteetag tiegtatatg 1200 1260 gagggggcag ggtaccacct tcctggttgg ctggttgggt tacgcgtcca gcttctgatt ggttggctag cagcgcatca caatcacttc ctggtcatgc tgcgactgcg ctccggttgt 1320 1380 acageceatg aactaegeat ecegtgttge tetgeggtgg eggaagegga agegggtaeg 1440 gaggtaccag ctggtcttcg gagggggta gggggctcca tgaatggaag cggcggcggc

6 D

ggcgggagcg	acctgagctg	gattccgggg	ccggggcagg	ggctgcccag	ggcccgcacc	1500
		gatcctaaga				1560
ggggcggggc	cgggaggcct	cgggccggag	gcgcgtcggg	ctggagccgg	tcacgatgcc	1620
ccgaaggaag	caaagccatc	cacagcccgt	gaaatgcgag	ggggtcaaag	gtcaggggtc	1680
aggggccttg	agccgggagg	aacaggggtg	gggtcagtag	agtgggctca	ggtcagggtg	1740
gagggggact	cctcagggtt	aggggcggat	gatctgggat	cttcgctcct	taccagagta	1800
ttaaaggaac	ctgagggtca	tcgagtacgg	gaagtgcagt	tcacaacagc	tggctccttg	1860
gttcggatta	tgggtactgc	ttgggaggga	gattccacaa	gcaccctccc	ctctttagtg	1920
gatactgaag	attccttcga	cgaaggtcct	ggggccctgg	tgttggagag	cgatttgcta	1980
ctaggccaag	atctggagtt	tgaagaggaa	gaggaagagg	atgaaggtga	cggccacaac	2040
gaccagctca	tgggctttga	gagagactct	gaaggagact	ctcagggggc	cagacctgga	2100
cttccctatg	ggctgagtga	cgacgagtct	gggggcggcc	gcgcactaag	tgcggagagt	2160
gaagttgagg	aaccagccag	gggtccaggg	gaggccaggg	gtgagaggcc	aggcccagcc	2220
tgtcagctgt	gtgggggcc	gacaggtgag	gggccgtgtt	gtggggcagg	agggcggggt	2280
ggggggcccc	cgctgccccc	acggttactg	tactcatgcc	ggctgtgcgc	tttcgtgtcc	2340
cactactcga	gccacctgaa	gcggcacatg	cagacacaca	gcggggagaa	gccgttccgc	2400
tgtggccgct	gcccatacgc	ntcagcccag	ttcgtcaacc	tgacgcgaca	tacccgcacc	2460
catactggcg	agaagcccta	ccgttgtccc	cactgcccct	ttgcctgcag	cagcctgggc	2520
aacctgaggc	ggcatcagcg	cacccacaca	gggcctccca	ctcctccctg	cccaacctgt	2580
ggctttcgat	gctgtgctcc	acgaccaacc	cggcctccca	gtcccacaga	gcaggagggg	2640
acaatgcccc	gacgatcaga	aaatgcgctg	atcctgccag	acttgagtct	tcatgtgcca	2700
ccaggtggtg	ccagtttcct	gccagactgt	gggcagctgc	ggggtgaagg	ggagagcttg	2760
tgtggaactg	gatccgaacc	actgccagag	ctactgttcc	cttggacctg	ccggggctgt	2820
		tgagggcagc				2880
atgcgaggag	aggctggagg	ggttgccact	gggggacccc	agggccctgg	tgacaaaggc	2940
tttgcctgta	gtttatgccc	ctttgccact	cactacccca	accacctggc	tcggcacatg	3000
aagactcaca	gtggtgagaa	acccttccgc	tgtgcccgct	gtccatacgc	ctctgctcat	3060
					caagtgcccc	3120
ctctgtccgt	atgcctqtqq	caacctggcc	aacctcaagc	gtdatggtdg	catccactct	3190
ggtgacaaac	cttttcggtg	tagcctttgc	aactacagct	gcaaccagag	tatgaacctc	3240
aaacgtcata	tgctgcgaca	cacgggcgag	aagcccttcc	gctgtgccac	ctgcgcctat	3300
accacaggcc	actgggacaa	ctacaagcgt	catcagaagg	tgcatggcca	tggtggagca	3360
ggagggcctg	gtctctctgc	ccctgagggc	tgggccccac	ctcatagccc	accctctgtt	3420
ttgagcactc	ggggtccagc	agccctgggt	gctactggta	gcagggctct	tcattcagac	3480
tcaccttgaa	ctaactaggt	tcttttacct	ggggctctag	gaattagccc	tatgcctcct	3540
gcattttata	caaatgaact	agaaaccacc	tttccctttc	tcccccgctg	gtcaggggct	3600
ccacacagac	taacctaggc	actatatgga	ccagcctgaa	tcccatggtc	agggggccat	3660
atagaccagg	ggacttgtct	tagctcacgt	accagatgag	ctaagtgatt	agggccttgg	3720
					ccagcctttt	3780
					aaaaaaaaa	3840
aaaaaaa						3847

<210> 8 <211> 763 <212> PRT <213> Mus musculus

<400> 8

(D)

Ala Gly Leu Arg Arg Gly Val Gly Gly Ser Met Asn Gly Ser Gly Gly Gly Gly Gly Ser Asp Leu Ser Trp Ile Pro Gly Pro Gly Gln Gly Leu 85 90 Pro Arg Ala Arg Thr Val Tyr Gly Gly Ser Trp Ile Leu Arg Ala 105 Arg Thr Asp Gly Arg Ala Glu Leu Gly Gly Ala Gly Pro Gly Gly Leu 120 Gly Pro Glu Ala Arg Arg Ala Gly Ala Gly His Asp Ala Pro Lys Glu 135 Ala Lys Pro Ser Thr Ala Arg Glu Met Arg Gly Gly Gln Arg Ser Gly 150 155 Val Arg Gly Leu Glu Pro Gly Gly Thr Gly Val Gly Ser Val Glu Trp 165 170 Ala Gln Val Arg Val Glu Gly Asp Ser Ser Gly Leu Gly Ala Asp Asp 185 180 Leu Gly Ser Ser Leu Leu Thr Arg Val Leu Lys Glu Pro Glu Gly His 200 Arg Val Arg Glu Val Gln Phe Thr Thr Ala Gly Ser Leu Val Arg Ile 215 220 Met Gly Thr Ala Trp Glu Gly Asp Ser Thr Ser Thr Leu Pro Ser Leu 230 235 Val Asp Thr Glu Asp Ser Phe Asp Glu Gly Pro Gly Ala Leu Val Leu 245 250 Glu Ser Asp Leu Leu Gly Gln Asp Leu Glu Phe Glu Glu Glu Glu 265 Glu Glu Asp Glu Gly Asp Gly His Asn Asp Gln Leu Met Gly Phe Glu 280 Arg Asp Ser Glu Glv Asp Ser Gln Gly Ala Arg Pro Gly Leu Pro Tyr 295 Gly Leu Ser Asp Asp Glu Ser Gly Gly Arg Ala Leu Ser Ala Glu 315 310 Ser Glu Val Glu Glu Pro Ala Arg Gly Pro Gly Glu Ala Arg Gly Glu 330 Arg Pro Gly Pro Ala Cys Gln Leu Cys Gly Gly Pro Thr Gly Glu Gly 345 340 Pro Cys Cys Gly Ala Gly Gly Arg Gly Gly Pro Pro Leu Pro Pro 360 Arg Leu Leu Tyr Ser Cys Arg Leu Cys Ala Phe Val Ser His Tyr Ser 375 380 Ser His Leu Lys Arg His Met Gln Thr His Ser Gly Glu Lys Pro Phe 395 Arg Cys Gly Arg Cys Pro Tyr Xaa Ser Ala Gln Phe Val Asn Leu Thr 410 405 Arg His Thr Arg Thr His Thr Gly Glu Lys Pro Tyr Arg Cys Pro His 425 Cys Pro Phe Ala Cys Ser Ser Leu Gly Asn Leu Arg Arg His Gln Arg 440 Thr His Thr Gly Pro Pro Thr Pro Pro Cys Pro Thr Cys Gly Phe Arg 455 460 Cys Cys Ala Pro Arg Pro Thr Arg Pro Pro Ser Pro Thr Glu Glu Glu 470 475 Gly Thr Met Pro Arg Arg Ser Glu Asn Ala Leu Ile Leu Pro Asp Leu 490 Ser Leu His Val Pro Pro Gly Gly Ala Ser Phe Leu Pro Asp Cys Gly 500 505

Kith)

Gln Leu Arg Gly Glu Gly Glu Ser Leu Cys Gly Thr Gly Ser Glu Pro 520 Leu Pro Glu Leu Leu Phe Pro Trp Thr Cys Arg Gly Cys Gly Gln Glu 535 Leu Glu Glu Gly Glu Gly Ser Arg Leu Gly Ala Ala Met Cys Gly Arg 550 555 Cys Met Arg Gly Glu Ala Gly Gly Val Ala Thr Gly Gly Pro Gln Gly Pro Gly Asp Lys Gly Phe Ala Cys Ser Leu Cys Pro Phe Ala Thr His 580 585 Tyr Pro Asn His Leu Ala Arg His Met Lys Thr His Ser Gly Glu Lys Pro Phe Arg Cys Ala Arg Cys Pro Tyr Ala Ser Ala His Leu Asp Asn 615 620 Leu Lys Arg His Gln Arg Val His Thr Gly Glu Lys Pro Tyr Lys Cys 630 635 Pro Leu Cys Pro Tyr Ala Cys Gly Asn Leu Ala Asn Leu Lys Arg His 650 645 Gly Arg Ile His Ser Gly Asp Lys Pro Phe Arg Cys Ser Leu Cys Asn 660 665 Tyr Ser Cys Asn Gln Ser Met Asn Leu Lys Arg His Met Leu Arg His 685 680 675 Thr Gly Glu Lys Pro Phe Arg Cys Ala Thr Cys Ala Tyr Thr Thr Gly 695 His Trp Asp Asn Tyr Lys Arg His Gln Lys Val His Gly His Gly Gly 720 715 710 Ala Gly Gly Pro Gly Leu Ser Ala Pro Glu Gly Trp Ala Pro Pro His 725 730 Ser Pro Pro Ser Val Leu Ser Thr Arq Gly Pro Ala Ala Leu Glv Ala 745 Thr Gly Ser Arg Ala Leu His Ser Asp Ser Pro

<210> 9

<211> 2289

<212> DNA

<213> Mus musculus

<400> 9

60 atqqaqqqq caqqqtacca ccttcctggt tggctggttg ggttacgcgt ccagcttctg attggttggc tagcagcgca tcacaatcac ttcctggtca tgctgcgact gcgctccggt 120 tgtacagccc atgaactacg catcccgtgt tgctctgcgg tggcggaagc ggaagcgggt 180 acggaggtac cagctggtct tcggaggggg gtagggggct ccatgaatgg aagcggcggc 240 ggcggcggga gcgacctgag ctggattccg gggccggggc aggggctgcc cagggcccgc 300 acceptgtate geggegegette geggatecta agageaagga cegaeggeag gegegaacte 360 ggagggggg ggccgggagg cctcgggccg gaggcgcgtc gggctggagc cggtcacgat 420 480 gccccgaagg aagcaaagcc atccacagcc cgtgaaatgc gagggggtca aaggtcaggg 540 gtggagggg actcctcagg gttaggggcg gatgatctgg gatcttcgct ccttaccaga 600 gtattaaagg aacctgaggg tcatcgagta cgggaagtgc agttcacaac agctggctcc 660 720 ttggttcgga ttatgggtac tgcttgggag ggagattcca caagcaccct cccctcttta gtggatactg aagatteett egacgaaggt eetggggeee tggtgttgga gagegatttg 780 ctactaggcc aagatctgga gtttgaagag gaagaggaag aggatgaagg tgacggccac 840 aacgaccage teatgggett tgagagagae tetgaaggag acteteaggg ggeeagaeet 900 960 qqacttccct atgggctgag tgacgacgag tctgggggcg gccgcgcact aagtgcggag agtgaagttg aggaaccagc caggggtcca ggggaggcca ggggtgagag gccaggccca 1020 Wil

```
1080
gcctgtcagc tgtgtggggg gccgacaggt gaggggccgt gttgtggggc aggagggcgg
                                                                      1140
ggtggggggc ccccgctgcc cccacggtta ctgtactcat gccggctgtg cgctttcgtg
teceaetaet egageeaeet gaageggeae atgeagaeae acagegggga gaageegtte
                                                                      1200
                                                                      1260
cgctgtggcc gctgcccata cgcntcagcc cagttcgtca acctgacgcg acatacccgc
                                                                      1320
acceatactg gegagaagee ctacegttgt ceceaetgee cetttgeetg cageageetg
                                                                      1380
ggcaacctga ggcggcatca gcgcacccac acagggcctc ccactcctcc ctgcccaacc
                                                                      1440
tgtggctttc gatgctgtgc tccacgacca acccggcctc ccagtcccac agagcaggag
                                                                      1500
gggacaatgc cccgacgatc agaaaatgcg ctgatcctgc cagacttgag tcttcatgtg
                                                                      1560
ccaccaggtg gtgccagttt cctgccagac tgtgggcagc tgcggggtga aggggagagc
                                                                      1620
ttgtgtggaa ctggatccga accactgcca gagctactgt tcccttggac ctgccggggc
tgtggacagg aactggagga gggtgagggc agcaggctgg gagctgccat gtgtgggcgc
                                                                      1680
                                                                      1740
tgcatgcgag gagaggctgg aggggttgcc actgggggac cccagggccc tggtgacaaa
ggetttgeet gtagtttatg eccetttgee acteactace ecaaceacet ggeteggeae
                                                                      1800
                                                                      1860
atgaagactc acagtggtga gaaacccttc cgctgtgccc gctgtccata cgcctctgct
catctggata acctgaaacg gcaccagcgc gtccacacag gagaaaagcc ctacaagtgc
                                                                      1920
                                                                      1980
cccctctgtc cgtatgcctg tggcaacctg gccaacctca agcgtcatgg tcgcatccac
                                                                      2040
tetggtgaea aacetttteg gtgtageett tgeaactaea getgeaacea gagtatgaae
                                                                      2100
ctcaaacgtc atatgctgcg acacacgggc gagaagccct tccgctgtgc cacctgcgcc
                                                                      2160
tataccacag gccactggga caactacaag cgtcatcaga aggtgcatgg ccatggtgga
                                                                      2220
gcaggagggc ctggtctctc tgcccctgag ggctgggccc cacctcatag cccaccctct
                                                                      2280
gttttgagca ctcggggtcc agcagccctg ggtgctactg gtagcagggc tcttcattca
                                                                      2289
gactcacct
      <210> 10
      <211> 509
      <212> DNA
      <213> Mus musculus
      <400> 10
                                                                        60
ctgatcctgc cagacttgag tcttcatgtg ccaccaggtg gtgccagttt cctgccagac
                                                                       120
tgtgggcagc tgcggggtga aggggagagc ttgtgtggaa ctggatccga accactgcca
                                                                       180
gagetaetgt teeettggae etgeegggge tgtggaeagg aactggagga gggtgaggge
                                                                       240
agcaggctgg gagctgccat gtgtgggcgc tgcatgcgag gagaggctgg aggggttgcc
                                                                       300
actgggggac cccagggccc tggtgacaaa ggctttgctg tagtttatgc ccctttgcca
                                                                       360
ctcactaccc caaccacctg gctcggcaca tgaagactca cagtggtgag aaacccttcc
                                                                       420
gctgtgcccg ctgtccatac gcctctgctc atctggataa cctgaaacgg caccagcgcg
                                                                       480
tccacacagg agaaaagccc tacaagtgcc ccctctgtcc gtatgcctgt ggcaacctgg
                                                                        509
ccaacctcaa gcgtcatggt cgcatccac
      <210> 11
      <211> 500
      <212> DNA
      <213> Mus musculus
      <400> 11
cctaccgctg tccccactgc ccctttgcct gcagcagcct gggcaacctg aggcggcatc
                                                                        60
agegeaceca caeagggeet eccaetecte cetgeecaae etgtggettt egatgetgtg
                                                                        120
ctccacgacc aacceggect cccagtecca cagagcagga ggggacaatg ccccgacgat
                                                                        180
                                                                        240
cagaagatgc gctgatcctg ccagacttga gtcttcatgt gccaccaggt ggtgccagtt
                                                                        300
tcctgccaga ctgtgggcag ctgcggggtg aaggggagag cttgtgtgga actggatccg
                                                                        360
aaccactgcc agagetactg ttcccttgga cctgccgggg ctgtggacag gaactggagg
                                                                        420
agggtgaggg cagcaggctg ggagctgcca tgtgtgggcg ctgcatgcga ggagaggctg
gaggggttgc cactggggga cccagggccc tggtgacaaa ggctttgcct gtagtttatg
                                                                        480
                                                                        500
cccctttgcc actcactacc
```

<210> 12

(فر)

<211> 487

<212> DNA <213> Mus musculus <400> 12 accagagtat gaacctcaaa cgtcatatgc tgcgacacac gggcgagaag ccttccgctg 60 tgccacctgc gcctatacca caggccactg ggacaactac aagcgtcatc agaaggtgca 120 tggccatggt ggagcaggag ggcctggtct ctctgcccct gagggctggg cccagcctca 180 tageceacee tetgttttga geactegggg tecageagee etgggtgeta etggtageag 240 ggctcttcat tcagactcac cttgaactaa ctaggttctt ttacctgggg ctctaggaat 300 tagecetatg ceteetgeat tttatacaaa tgaactagaa accaeettte cettteteee 360 ccgctggtca ggggctccac acagactaac ctaggcacta tatggaccag cctgaatccc 420 480 atggtcaggg ggccatatag accaggggac ttgtcttagc tcacgtacca gatgagctaa 487 gtgatta <210> 13 <211> 446 <212> DNA <213> Mus musculus <400> 13 60 gtgttagtgt ttcctttatt ataaagcact gaaataagtt aaaacagtaa aaggctgggc ageteceaac cagtteatec atageetetg ggageagtgg eggtgaatec aaggeeetaa 120 tcacttagct catctggtac gtgagctaag acaagtcccc tggtctatat ggccccctga 180 240 ccatgggatt caggetggtc catatagtgc ctaggttagt ctgtgtggag cccctgacca gcgggggaga aagggaaagg tggtttctag ttcatttgta taaaatgcag gaggcatagg 300 gctaattcct agagccccag gtaaaagaac ctagttagtt caaggtgagt ctgaatgaag 360 420 agecetgeta ecagtageae ecagggetge tggacecega gtgeteaaaa cagagggtgg 445 actatgaggt gggggcagc cffcag <210> 14 <211> 441 <212> DNA <213> Mus musculus <400> 14 agcagccagg aggttgtaga ctttattcaa tcaaagatca gtcaacgtga tgaaaacggg 60 gagetteggt tattgtcate cattgtggaa gagetgetgg ateagtgeet ggegeeagae 120 180 acttetgggg atggtacagg gtgtgacaac atgacgtgca tcatcatttg cttcaagccc 240 cgaaacacag tagagcttca ggcagagagt ggcaagagga aactggagga ggcactgtcc 300 acggaggggg ctgaagacac cggcaacagt gacaaaaaga aggccaagag ggactagtgg tcaaccggac cctgcccatg tggactgttt tctgagccct tggacccgag actgagtttt 360 420 gteettgtee tttageetta geagtgggta tgaggtgtge agggggetgg gtggetttee 441 tcagcccatt acaaagaggg c <210> 15 <211> 581 <212> DNA <213> Mus musculus <400> 15 60 ggcctttagt ctgaaaaagt gttgcttgaa agtgtacaac agagagcggg tgcaagcggc 120 taggggtcac agagccgcca ataaaaaaga atgtccttaa ataaagtgtt cacagagtaa aaatcagaac taccagtcct tccctccaac acaacagagc acaggcacag aaccgatagt 180 240 cgatgagece aaggagagta aggaggetta agaggacage agageeteee aggetgeege 300 gtggggggg tggggggcc tetttgtaat gggctgagga aagccaccca gccccetgca

لف

cacctcatac ccactgctaa ggctaaagga caaggacaaa actcagtctc gctcagaaaa cagtccacat gggcagggtc cggttgacca ctagtccctc ttttgtcact gttgccggtg tcttcagccc cctccgtgga cagtgcctcc tcttgccant ctctgcctga agctctactg tgtttcgggg cttgaagcaa acgtcatgtt gtcacaccct gtaccatccc cagaagtgtc t	ttggccttct tccagtttcc	360 420 480 540 581
<210> 16 <211> 586 <212> DNA <213> Mus musculus		
<400> 16		
gcttttgttt ggcctttagt ctgaaaaagt gttgcttgaa agtgtacaac	agagagcggg	60
tgcaagcggc taggggtcac agagccgcca ataaaaaaga atgtccttaa		120
cacagagtaa aaatcagaac taccagtcct tccctccaac acaacagagc		180
aaccgatagt cgatgagccc aaggagagta aggaggctta agaggacagc		240
aggctgccgc gtgggggggg tggggggccc tctttgtaat gggctgagga		300
gcccctgca cacctcatac ccactgctaa ggctaaagga caaggacaaa		360
gggtccaagg ggctcagaaa aacagttcca catggggcag ggtccggttg		420
tccctcttgg gccttctttt tgttcactgt tggccggtgt cttcagcccc		480
agtgcctcct ccagtttcct cttgccactc ttctgnctga agtctactgt		540
tgaagcaaat gatgatgcac ttcatgttgt tcacaccctg taccat		586
		-
<210> 17		
<211> 2336		
<212> DNA		
<213> Mus musculus		
<400> 17		
atggaggggg cagggtacca ccttcctggt tggctggttg ggttacgcgt	ccagcttctg	60
attggttggc tagcagcgca tcacaatcac ttcctggtca tgctgcgact		120
tgtacagccc atgaactacg catcccgtgt tgctctgcgg tggcggaagc		180
acggaggtac cagctggtct tcggaggggg gtagggggct ccatgaatgg	aagcggcggc	240
ggcggcggga gcgacctgag ctgggctccg gggccggggc caggggctgc	ccagggcccg	300
caccgtgtat gggggcggtt cgtggatcct aagagcaagg accgacggca	gggccgaact	360
gggaggggcg gggccgggag gcctcgggcc ggaggcgcgt cgggctggag	ccggtcacga	420
tgccccgaag gaagcaaagc catccacagc ccgtgaaatg cgagggggtc		480
ggtcaggggc cttgagccgg gaggaacagg ggtggggtca gtagagtggg		540
ggtggagggg gactcctgag ggttaggggc ggatgatctg ggatcttcgc		600
agtattaaag gaacctgagg gtcatcgagt acgggaagtg cagttcacaa		660
cttggttcgg attatgggta ctgcttggga gggagattcc acaagcaccc		720
agtggatact gaagatteet tegacgaagg teetggggee etggtgttgg		780
gctactaggc caagatctgg agtttgaaga ggaagaggaa gaggatgaag		840
caacgaccag ctcatgggct ttgagagaga ctctgaagga gactctcagg		900 960
tggacttccc tatgggctga gtgacgacga gtctgggggc ggccgcgcac		1020
gagtgaagtt gaggaaccag ccaggggtcc aggggaggcc aggggtgaga		1020
ageetgteag etgtgtgggg ggeegaeagg tgaggggeeg tgttgtgggg gggtgggggg ceeeegetge eeceaeggtt aetgtaetea tgeeggetgt		1140
		1200
gtcccactac tcgagccacc tgaagcggca catgcagaca cacagcgggg ccgctgtggc cgctgcccat acgcctcagc ccagctcgtc aacctgacgc		1260
cacccatact ggcgagaagc cctaccgctg tccccactgc ccctttgcct		1320
gggcaacctg aggcggcatc agcgcaccca cacagggcct cccactcctc		1380
ctgtggcttt cgatgctgtg ctccacgacc aacceggcct cccagtccca		1440
ggggacaatg ccccgacgat cagaagatgc gctgatcctg ccagacatga		1500
tggtgagaaa cccttccgct gtgcccgctg tccatacgcc tctgctcatc		1560
gaaacggcac cagcgcgtcc acacaggaga aaagccctac aagtgccccc		1620

tgcctgtggc aacctggcca acctcaagcg tcatggtcgc atccactctg gtgacaaacc 1680 ttttcggtgt agcctttgca actacagctg caaccagagt atgaacctca aacgtcatat 1740 gctgcgacac acgggcgaga agcccttccg ctgtgccacc tgcgcctata ccacaggcca 1800 ctgggacaac tacaagcgtc atcagaaggt gcatggccat ggtggagcag gagggcctgg 1860 tetetetgee cetgaggget gggeeceace teatageeca ceetetgttt tgageacteg 1920 gggtccagca gccctgggtg ctactggtag cagggctctt cattcagact caccttgaac 1980 taactaggtt cttttacctg gggctctagg aattagccct atgcctcctg cattttatac 2040 aaatgaacta gaaaccacct ttccctttct cccccgctgg tcaggggctc cacacagact 2100 aacctaggca ctatatggac cagcctgaat cccatggtca gggggccata tagaccaggg 2160 gacttgtctt agctcacgta ccagatgagc taagtgatta gggccttgga ttcaccgcca 2220 ctgctcccag aggctatgga tgaactggtt gggagctgcc cagcctttta ctgttttaac 2280 2336

<210> 18

<211> 434

<212> PRT

<213> Mus musculus

<400> 18 Met Gly Thr Ala Trp Glu Gly Asp Ser Thr Ser Thr Leu Pro Ser Leu 10 Val Asp Thr Glu Asp Ser Phe Asp Glu Gly Pro Gly Ala Leu Val Leu 25 Glu Ser Asp Leu Leu Gly Gln Asp Leu Glu Phe Glu Glu Glu Glu 40 Glu Glu Asp Glu Gly Asp Gly His Asn Asp Gln Leu Met Gly Phe Glu 55 Arg Asp Ser Glu Gly Asp Ser Gln Gly Ala Arg Pro Gly Leu Pro Tyr 70 75 Gly Leu Ser Asp Asp Glu Ser Gly Gly Gly Arg Ala Leu Ser Ala Glu 90 85 Ser Glu Val Glu Glu Pro Ala Arg Gly Pro Gly Glu Ala Arg Gly Glu 100 105 Arg Pro Gly Pro Ala Cys Gln Leu Cys Gly Gly Pro Thr Gly Glu Gly 120 125 Pro Cys Cys Gly Ala Gly Gly Arg Gly Gly Pro Pro Leu Pro Pro 135 Arg Leu Leu Tyr Ser Cys Arg Leu Cys Ala Phe Val Ser His Tyr Ser 150 155 Ser His Leu Lys Arg His Met Gln Thr His Ser Gly Glu Lys Pro Phe 170 Arg Cys Gly Arg Cys Pro Tyr Ala Ser Ala Gln Leu Val Asn Leu Thr 185 Arg His Thr Arg Thr His Thr Gly Glu Lys Pro Tyr Arg Cys Pro His 200 205 Cys Pro Phe Ala Cys Ser Ser Leu Gly Asn Leu Arg Arg His Gln Arg 215 220 Thr His Thr Gly Pro Pro Thr Pro Pro Cys Pro Thr Cys Gly Phe Arg 230 235 Cys Cys Ala Pro Arg Pro Thr Arg Pro Pro Ser Pro Thr Glu Glu Glu 250 245 Gly Thr Met Pro Arg Arg Ser Glu Asp Ala Leu Ile Leu Pro Asp Met 265 270 Lys Thr His Ser Gly Glu Lys Pro Phe Arg Cys Ala Arg Cys Pro Tyr 280 Ala Ser Ala His Leu Asp Asn Leu Lys Arg His Gln Arg Val His Thr

6

295 300 290 Gly Glu Lys Pro Tyr Lys Cys Pro Leu Cys Pro Tyr Ala Cys Gly Asn 315 Leu Ala Asn Leu Lys Arg His Gly Arg Ile His Ser Gly Asp Lys Pro 325 330 335 Phe Arg Cys Ser Leu Cys Asn Tyr Ser Cys Asn Gln Ser Met Asn Leu Lys Arg His Met Leu Arg His Thr Gly Glu Lys Pro Phe Arg Cys Ala 360 365 Thr Cys Ala Tyr Thr Thr Gly His Trp Asp Asn Tyr Lys Arg His Gln 370 375 380 Lys Val His Gly His Gly Gly Ala Gly Gly Pro Gly Leu Ser Ala Pro 400 385 390 395 Glu Gly Trp Ala Pro Pro His Ser Pro Pro Ser Val Leu Ser Thr Arg 410 Gly Pro Ala Ala Leu Gly Ala Thr Gly Ser Arg Ala Leu His Ser Asp 420 425 Ser Pro

--- ---

<210> 19 <211> 2651

<212> DNA

<213> Mus musculus

<400> 19

atqqaqqqq caqggtacca cettcetggt tggctggttg ggttacgcgt ccagettetg 60 120 attggttggc tagcagcgca tcacaatcac ttcctggtca tgctgcgact gcgctccggt totacagece atgaactacg categogtgt tgctctgcgg tggcggaage ggaagegggt 100 240 acggaggtac cagctggtct tcggaggggg gtagggggct ccatgaatgg aagcggcggc 300 ggcggcggga gcgacctgag ctgggctccg gggccggggc caggggctgc ccagggcccg 360 caccgtgtat gggggcggtt cgtggatcct aagagcaagg accgacggca gggccgaact 420 gggaggggg gggccgggag gcctcgggcc ggaggcgcgt cgggctggag ccggtcacga 480 tgccccgaag gaagcaaagc catccacagc ccgtgaaatg cgagggggtc aaaggtcagg ggtcaggggc cttgagccgg gaggaacagg ggtggggtca gtagagtggg ctcaggtcag 540 600 ggtggagggg gactcctgag ggttaggggc ggatgatctg ggatcttcgc tccttaccag 660 agtattaaag gaacctgagg gtcatcgagt acgggaagtg cagttcacaa cagctggctc 720 cttggttcgg attatgggta ctgcttggga gggagattcc acaagcaccc tcccctcttt 780 agtggatact gaagatteet tegaegaagg teetggggee etggtgttgg agagegattt 840 gctactaggc caagatctgg agtttgaaga ggaagaggaa gaggatgaag gtgacggcca 900 caacgaccag ctcatgggct ttgagagaga ctctgaagga gactctcagg gggccagacc 960 tggacttecc tatgggetga gtgacgacga gtetggggge ggeegegeae taagtgegga 1020 gagtgaagtt gaggaaccag ccaggggtcc aggggaggcc aggggtgaga ggccaggccc agcctgtcag ctgtgtgggg ggccgacagg tgaggggccg tgttgtgggg caggagggcg 1080 1140 gggtggggg cccccgctgc ccccacggtt actgtactca tgccggctgt gcgctttcgt 1200 gtcccactac tcgagccacc tgaagcggca catgcagaca cacagcgggg agaagccgtt 1260 cegetgtgge egetgeecat aegeeteage ceagetegte aacetgaege gacataceeg cacccatact ggcgagaage cetacegetg tececactge ecetttgeet geageageet 1320 1380 gggcaacetg aggcggcate agcgcaceca cacagggcet cecacteete cetgcecaac 1440 ctqtqqcttt cgatgctgtg ctccacgacc aacccggcct cccagtccca cagagcagga ggggacaatg ccccgacgat cagaagatgc gctgatcctg ccagacttga gtcttcatgt 1500 gccaccaggt ggtgccagtt tcctgccaga ctgtgggcag ctgcggggtg aaggggagag 1560 cttgtgtgga actggatccg aaccactgcc agagctactg ttcccttgga cctgccgggg 1620 1680 ctgtggacag gaactggagg agggtgaggg cagcaggctg ggagctgcca tgtgtgggcg ctgcatgcga ggagaggctg gaggggttgc cactggggga ccccagggcc ctggtgacaa 1740 aggetttgcc tgtagtttat geceetttgc cacteactae cecaaceace tggeteggea 1800 رنعر

catgaagact	cacagtggtg	agaaaccctt	ccgctgtgcc	cgctgtccat	acgcctctgc	1860
tcatctggat	aacctgaaac	ggcaccagcg	cgtccacaca	ggagaaaagc	cctacaagtg	1920
cccctctgt	ccgtatgcct	gtggcaacct	ggccaacctc	aagcgtcatg	gtcgcatcca	1980
ctctggtgac	aaaccttttc	ggtgtagcct	ttgcaactac	agctgcaacc	agagtatgaa	2040
cctcaaacgt	catatgctgc	gacacacggg	cgagaagccc	ttccgctgtg	ccacctgcgc	2100
ctataccaca	ggccactggg	acaactacaa	gcgtcatcag	aaggtgcatg	gccatggtgg	2160
agcaggaggg	cctggtctct	ctgcccctga	gggctgggcc	ccacctcata	gcccaccctc	2220
tgttttgagc	actcggggtc	cagcagccct	gggtgctact	ggtagcaggg	ctcttcattc	2280
agactcacct	tgaactaact	aggttctttt	acctggggct	ctaggaatta	gccctatgcc	2340
tcctgcattt	tatacaaatg	aactagaaac	cacctttccc	tttctcccc	gctggtcagg	2400
ggctccacac	agactaacct	aggcactata	tggaccagcc	tgaatcccat	ggtcaggggg	2460
ccatatagac	caggggactt	gtcttagctc	acgtaccaga	tgagctaagt	gattagggcc	2520
ttggattcac	cgccactgct	cccagaggct	atggatgaac	tggttgggag	ctgcccagcc	2580
ttttactgtt	ttaacttatt	tcagtgcttt	ataataaagg	aaacactaac	agaaaaaaaa	2640
aaaaaaaaa	a					2651

<210> 20

<211> 539

<212> PRT

<213> Mus musculus

<400> 20

Met Gly Thr Ala Trp Glu Gly Asp Ser Thr Ser Thr Leu Pro Ser Leu 5 Val Asp Thr Glu Asp Ser Phe Asp Glu Gly Pro Gly Ala Leu Val Leu Glu Ser Asp Leu Leu Gly Gln Asp Leu Glu Phe Glu Glu Glu Glu Glu Glu Asp Glu Gly Asp Gly His Asn Asp Gln Leu Met Gly Phe Glu 55 Arg Asp Ser Glu Gly Asp Ser Gln Gly Ala Arg Pro Gly Leu Pro Tyr Gly Leu Ser Asp Glu Ser Gly Gly Gly Arg Ala Leu Ser Ala Glu 90 Ser Glu Val Glu Glu Pro Ala Arg Gly Pro Gly Glu Ala Arg Gly Glu 100 105 Arg Pro Gly Pro Ala Cys Gln Leu Cys Gly Gly Pro Thr Gly Glu Gly 120 125 Pro Cys Cys Gly Ala Gly Gly Arg Gly Gly Pro Pro Leu Pro Pro 135 Arg Leu Leu Tyr Ser Cys Arg Leu Cys Ala Phe Val Ser His Tyr Ser 155 150 Ser His Leu Lys Arg His Met Gln Thr His Ser Gly Glu Lys Pro Phe 170 165 Arg Cys Gly Arg Cys Pro Tyr Ala Ser Ala Gln Leu Val Asn Leu Thr 185 Arg His Thr Arg Thr His Thr Gly Glu Lys Pro Tyr Arg Cys Pro His 200 Cys Pro Phe Ala Cys Ser Ser Leu Gly Asn Leu Arg Arg His Gln Arg 215 220 Thr His Thr Gly Pro Pro Thr Pro Pro Cys Pro Thr Cys Gly Phe Arg 230 235 Cys Cys Ala Pro Arg Pro Thr Arg Pro Pro Ser Pro Thr Glu Gln Glu 250 245 Gly Thr Met Pro Arg Arg Ser Glu Asp Ala Leu Ile Leu Pro Asp Leu 265 270

```
Ser Leu His Val Pro Pro Gly Gly Ala Ser Phe Leu Pro Asp Cys Gly
       275
                           280
Gln Leu Arg Gly Glu Gly Glu Ser Leu Cys Gly Thr Gly Ser Glu Pro
                       295
                                           300
Leu Pro Glu Leu Leu Phe Pro Trp Thr Cys Arg Gly Cys Gly Glu Glu
                   310
                                       315
Leu Glu Glu Gly Glu Gly Ser Arg Leu Gly Ala Ala Met Cys Gly Arg
                                   330
Cys Met Arg Gly Glu Ala Gly Gly Val Ala Thr Gly Gly Pro Gln Gly
                               345
Pro Gly Asp Lys Gly Phe Ala Cys Ser Leu Cys Pro Phe Ala Thr His
                           360
Tyr Pro Asn His Leu Ala Arg His Met Lys Thr His Ser Gly Glu Lys
                       375
                                           380
Pro Phe Arg Cys Ala Arg Cys Pro Tyr Ala Ser Ala His Leu Asp Asn
                   390
                                       395
Leu Lys Arg His Gln Arg Val His Thr Gly Glu Lys Pro Tyr Lys Cys
            · 405
                                   410
Pro Leu Cys Pro Tyr Ala Cys Gly Asn Leu Ala Asn Leu Lys Arg His
           420
                               425
Gly Arg Ile His Ser Gly Asp Lys Pro Phe Arg Cys Ser Leu Cys Asn
                           440
Tyr Ser Cys Asn Gln Ser Met Asn Leu Lys Arg His Met Leu Arg His
                                460
                       455
Thr Gly Glu Lys Pro Phe Arg Cys Ala Thr Cys Ala Tyr Thr Thr Gly
                   470
                                       475
His Trp Asp Asn Tyr Lys Arg His Gln Lys Val His Gly His Gly Gly
               485
                                   490
Ala Gly Gly Pro Gly Leu Ser Ala Pro Glu Gly Trp Ala Pro Pro His
           500
                               505
Ser Pro Pro Ser Val Leu Ser Thr Arg Gly Pro Ala Ala Leu Gly Ala
                           520
Thr Gly Ser Arg Ala Leu His Ser Asp Ser Pro
                       535
     <210> 21
     <211> 30
      <212> DNA
      <213> Mus musculus
      <400> 21
                                                                       30
acctaacttg gtctcacagg ctagaattta
     <210> 22
      <211> 30
      <212> DNA
      <213> Rattus norvegicus
     <400> 22
acctagettg geeteaeggg ctaggattta
                                                                       30
      <210> 23
```

<211> 28 <212> DNA

<213> Homo sapiens

<400> 23 acctagetet geecegeagt gagattta

1 4, 1